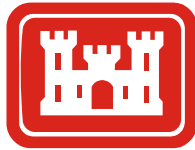


**DRAFT
ENVIRONMENTAL ASSESSMENT
NOKOMIS ROAD BRIDGE AT TENMILE CREEK
LANCASTER, DALLAS COUNTY, TEXAS
SECTION 14
EMERGENCY STREAMBANK EROSION PROTECTION**



**Prepared for
City of Lancaster**

by
**US Army Corps of Engineers
Fort Worth District**

April 2007

DRAFT
FINDING OF NO SIGNIFICANT IMPACT
NOKOMIS ROAD BRIDGE AT TENMILE CREEK
LANCASTER, TEXAS
SECTION 14
EMERGENCY STREAMBANK EROSION PROTECTION

Description of Action The U.S. Army Corps of Engineers, Fort Worth District, proposes to construct a project for the purpose of emergency stream bank protection. The project site is located along Nokomis Road as it crosses Tenmile Creek in Lancaster, Texas. The proposed project is required to repair and prevent stream bank failure and protect Tenmile Creek bridge as well as Nokomis Road from further erosion induced damages. The project is authorized under Section 14 of the Flood Control Act of 1946, as amended.

Anticipated Environmental Effects Five alternatives were considered during the plan formulation process for the stream bank protection. These alternatives included: 1) gabions; 2) rock riprap; 3) a concrete slope structure; 4) prepackaged concrete riprap bag slope protection, and 5) a “No Action” plan. Alternative 4 was chosen as the recommended plan based on the plan’s cost effectiveness for providing protection against further stream bank erosion at the problem site and the plan’s ability to protect the bridge structure and road from erosion induced failure.

An Environmental Assessment (EA) has been prepared pursuant to Section 102 of the National Environmental Policy Act of 1969 as implemented by the regulations promulgated by the President’s Council on Environmental Quality (40 Code of Federal Regulations Parts 1500-1508 and Engineering Regulation 200-2-2). The EA evaluated the potential environmental impacts associated with the proposed project. The assessment included an evaluation of beneficial and adverse impacts to cultural resources, fish and wildlife resources, vegetation, water quality, critical habitats, Federal and state listed threatened and endangered species, and regulatory requirements.

Based upon reviewing the findings of the EA, I conclude that the construction of the proposed project will result in a finding of no significant impact (FONSI). I further conclude that implementation of the proposed project will not constitute a major Federal action requiring the preparation of an environmental impact statement (EIS).

Christopher W. Martin
Colonel, Corps of Engineers
District Commander

Date

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Study Authority

This study is conducted under the authority of the U.S. Army Corps of Engineers (USACE) Continuing Authorities Program. Section 14 of the Flood Control Act of 1946, as amended, gives USACE the authority to provide emergency streambank protection for public facilities and services.

Study Area

The City of Lancaster is located in Dallas County; approximately 17 miles south of Dallas (see Figures 1 through 3). It has a population of 24,487 and is one of the oldest communities in north central Texas. One of the original settlements in the area was on the north bank of Tenmile Creek near the northern limit of Edgewood cemetery on Nokomis Road.

Tenmile Creek flows in an easterly direction through the south end of the City. There has been significant erosion of the stream banks in the area where Nokomis Road and Tenmile Creek intersect.

Erosion Problem

Erosion is occurring upstream and downstream of the Nokomis Road bridge. Tenmile Creek in this area flows from the north, turns 90° to the left, passes under the bridge, then turns another 45° to the left (see Figure 3). Table 1 shows the typical velocities for this segment of Tenmile Creek.

Table 1: Flow Velocities	
Storm Event	Velocities (fps)
10 year	4.6 – 10.2
25 year	5.2 – 11.5
100 year	6 – 11.2

These velocities, combined with the hairpin turn of the creek have caused severe erosion upstream and downstream of the bridge. See the photographs in Appendix A for the current state of erosion in the area.

The area lies within the drainage area of the Trinity River. In the Tenmile Creek watershed, the rainfall tends to be moderate with periodic storm bursts. These storms are often triggered by northern fronts meeting warm humid air from the Gulf of Mexico. They can produce a high rainfall in a very short period of time. Average rainfall in Dallas County is 34 to 36 inches per year.

The local geology of the area is comprised of Cretaceous Age Austin Chalk deposits described as deep, clayey soils. The soil along Tenmile Creek generally consists of the Austin-Lewisville complex consisting of grayish to dark brown silty clays overlying

more granular materials. The clays have low to moderate plasticity and low to high erosion potential.

The CESWF project development team used an erosion estimate prepared by Freese and Nichols, Inc. in January 2002. They estimated erosion using an existing (1988) HEC-2 model of Tenmile Creek. The 1988 HEC-2 model was completed in 1982, and then modified in 1988 with two-foot topographic maps and digitized cross sections. Four stream cross sections were taken from the 1988 model to establish a baseline streambank condition for evaluation. Two cross sections upstream of the bridge (69340 and 69330), and two cross sections downstream (69310 and 69300) were plotted to scale to represent the conditions under the bridge in 1988.

In September 2001, eight new cross sections were surveyed, four upstream of the bridge (69412, 69392, 69363 and 69335) and four downstream of the bridge (69302, 69272, 69252 and 69220). These eight new cross sections replaced the previous four sections in the 1988 model. The HEC-RAS model used in this study is included in Appendix B.

The new cross sections 69335 and 69302 are just upstream and downstream of Nokomis Road bridge, respectively. These sections were compared to the sections from the 1988 model to determine the volume of material eroded over the approximate 13-year period. As shown in Table 2, erosion has occurred at a rate of approximately 30 cubic yards per year below the bridge since 1988. It should be noted that this is the average erosion over the period, and that a majority of the erosion could have been caused by a few intense storm events.

Table 2: Erosion Calculations				
COE X-Section	Length (ft)	Cut Area (ft ²)	Average Area (ft ²)	Cut Volume (CY)
69300	10	323	225	94
69310	20	187	221	163
69330	10	254	349	129
69340		444		
			Total =	387
Base Year of X-Sections =			1988	
Current Year of X-Sections =			2001	
Total Number of Years =			13	
Cubic Yards of Erosion per Year =			30	

Affected Facilities

The Nokomis Road bridge is located in the City of Lancaster, Texas. The City owns the bridge and it provides access to homes, businesses, and schools with an estimated traffic count of 1,200 cars per day.

Based on the field investigation, erosion calculations, and visual inspections, if erosion is not stabilized, the stream banks will continue to fail. At the current rate of erosion, both the embankment and the bridge for Nokomis Road are likely to be negatively impacted within the next five years.

Most Likely Future Condition without a Federal Project

If the stream bank erosion that is occurring near the bridge is left unchecked, the most likely future condition of the area is as follows:

1. Erosion of the stream bank will continue toward the bridge.
2. At some critical juncture, the erosion will undercut the approaches to the Nokomis Road bridge, thereby jeopardizing the integrity of the bridge structure.
3. At that time, the road will have to be either closed to through traffic or the bridge and its approaches rebuilt.
4. Even if the bridge and the approaches are rebuilt, failing to control the bank erosion could once again jeopardize the integrity of the bridge structure at some point in the future.

Alternative Plans Considered

In accordance with the guidelines outlined in ER 1105-2-100, the development and evaluation of alternatives reflect the magnitude and scope of a Section 14 study. The thought process used to address the imminent threat to the bridge structure was conducted in the following terms:

- Identify the erosion problem;
- Identify the cause(s) of the erosion problem;
- Develop alternatives based on engineering judgment and experience that address the erosion problem at the site; and
- Based on engineering judgment and experience decide on the alternative that would address the erosion problem in the least costly manner.

The PDT considered four alternatives for addressing the stream bank erosion problems upstream and downstream of the Nokomis Road bridge.

1. Gabions,
2. Rock riprap
3. Concrete slope protection

4. Prepackaged concrete riprap bag slope protection

All four alternatives require reshaping the banks of Tenmile Creek. The details of these alternatives are described below.

Alternative 1: Gabions This alternative consists of placing a 21' tall gabion basket gravity wall on one side slope. The bank would be cut back to a 1H:1V slope, backfilled with compacted fill, and the gravity wall constructed. The gabions would use a 1'x3'x6' baskets. The wall would be founded on a 3'x3'x6' gabion blanket. This would allow the bottom of the channel to remain natural and provide a method to protect the bottom of the wall from erosion.

Alternative 2: Rock Riprap This alternative consists of laying a 24" thick layer of rock riprap on an 8" bedding layer. The bank would be cut back to a 1H:3V slope and the riprap placed up slope, a distance of approximately 50 feet, for the entire length of the problem area (400').

Alternative 3: Concrete Slope Protection This alternative consists of casting concrete on the side slopes of the channel. The concrete slope protection would have 2H:1V sides slopes and be keyed in at the top and at the toe. A three-foot layer of rock riprap on 9" bedding would be used to transition the flows between the natural streambed and the concrete lined channel for approximately 25 feet upstream and downstream of the concrete.

Alternative 4: Prepackaged Concrete Riprap Bag Slope Protection. This alternative consists of stacking 13"x21"x4 ¾ " prepackaged bags of concrete riprap up the side slopes for approximately 325 linear feet. The bank would be cut back to a 1H:1V slope and backfilled with compacted fill. The bags would be staggered up the slope and anchored with 7" reinforced bars and 4' reinforced bars at the toe.

Alternative 5: No Action. This alternative would consist of no project action taking place. No bank stabilization measures would be implemented. An advantage to this alternative would be no disturbance or impact to the proposed site from construction activity. Disadvantages of this alternative would include: 1) Erosion of the stream bank will continue toward the bridge. 2) At some critical juncture, the erosion will undercut the approaches to the Nokomis Road bridge, thereby jeopardizing the integrity of the bridge structure. 3) At that time, the road will have to be either closed to through traffic or the bridge and its approaches rebuilt. 4) Even if the bridge and the approaches are rebuilt, failing to control the bank erosion could once again jeopardize the integrity of the bridge structure at some point in the future.

Recommended Plan

The Section 14 authority considers the least cost alternative justified if the recommended plan is less than the costs to relocate the threatened facility. The least cost alternative that will stop the erosion is Alternative 4: Prepackaged concrete riprap.

Affected Environment

Project Setting and Land Use

Dallas County comprises 902 square miles of the primarily flat, heavy Blackland Prairie. Elevations in the county range from 382 to 850 feet above sea level. Tenmile Creek rises just inside the northern corporate limits of Cedar Hill in southwestern Dallas County (at 32°37' N, 96°57' W) and runs southeast for 25½ miles to its mouth on the Trinity River, 1½ miles north of the Ellis county line (at 32°34' N, 96°34' W). The creek was ten miles longer and flowed into the Trinity in Ellis County before it was diverted and channelled into the river at its present location. Where not diverted, the creek has a limestone bottom. Today, the creek flows through the corporate limits of Cedar Hill, Duncanville, De Soto, Lancaster, Wilmer, and Ferris.

Climate

Temperatures range from an average high of 95° F in July to an average low of 36° in January. The average rainfall is thirty-six inches a year. The growing season lasts 235 days.

Geology and Soils

The local geology of the area is comprised of Cretaceous Age Austin Chalk deposits described as deep, clayey soils. The soil along Tenmile Creek generally consists of the Austin-Lewisville complex consisting of grayish to dark brown silty clays overlying more granular materials. The clays have low to moderate plasticity and low to high erosion potential.

Water Quality

The Texas Commission on Environmental Quality (TCEQ), charged with the responsibility of maintaining and enhancing the waters in the state, divided surface waters in the state of Texas into numbered segments for the purpose of organizing water quality data and designated water uses and classifications. This information is used to describe the status and trends of the state's waters.

The segment within the study area includes segment 0805 (from a point immediately upstream of the confluence of the Cedar Creek Reservoir discharge canal in Henderson/Navarro County to a point immediately upstream of the confluence of Elm Fork Trinity River in Dallas County), as documented in the Texas 2002 Clean Water Act Section 303(d) List (draft October 1, 2002). Segment 0805 does not lay within the study area boundaries. However, due to Tenmile creeks' direct link to the Trinity River in this segment, it can provide valuable water quality information about water leaving Tenmile creek and entering the Trinity River.

The state's water quality inventory contains data on chemical and physical parameters for contaminants such as metals, organics, pathogens, and nutrients. Segment fact sheets also provide descriptions, concerns, and information on designated water uses. Surface waters are classified as "water quality limited" or "effluent limited." Water bodies classified as "effluent limited," indicate that water quality standards are being maintained and that conventional wastewater treatment is adequate to protect existing conditions. The term "water quality limited" signifies the applicability of one or more of the following:

- Surface water quality monitoring data indicate significant violations of criteria in the Texas Surface Water Quality Standards (TSWQS) that are protective of aquatic life, contact recreation, public water supply and fish consumption;
- Advanced waste treatment for point source wastewater discharges is required to meet water quality standards (advanced waste treatment is defined as treatment equal to or more stringent than a 30-day average of 10mg/L CBOD5 and 12 mg/L ammonia nitrogen);
- The segment is a public water supply reservoir (requires special wastewater treatment considerations).

In addition to the classification above, the TCEQ rates various uses for the water segments that may include one or more of the following:

- Aquatic Life Use - a category concerned with the ability of waters to support aquatic life. The aquatic life use category has ratings of limited, intermediate, high or exceptional based on physical, chemical and biological characteristics as well as the prevalence and magnitude of toxic chemicals in the water and sediment. The TSWQS includes numerical criteria (as maximum instream concentrations) for 39 toxic pollutants in order to protect aquatic life;
- Contact Recreation Use - includes recreational activities involving a significant risk of ingestion, including wading by children, swimming, water skiing, diving and surfing. This use is assigned to all water bodies except special cases but it is not a guarantee that the water is completely free of disease-causing organisms. A coliform density of 400 colonies/100ml is used as a screening level;
- Noncontact Recreation Use – includes recreational pursuits not involving a significant risk of water ingestion, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity. The noncontact

recreation use for these water bodies is protected by the same coliform screening levels assigned to contact recreational waters;

- Fish Consumption Use - human health criteria found in the TSWQS are used to protect the fish consumption use. The standards identify levels at which certain toxic substances dissolved in water pose a significant risk that these toxics may accumulate in the tissues of aquatic species.
- Public Water Supply - this use is assigned for those segments that are to be used as a source for public water systems. The indicators used to measure the safety or usability for drinking water includes the presence or absence of substances such as metals or pesticides. The concentration of dissolved solids is also measured since treatment to remove them from drinking water is expensive.

These uses are rated as fully supporting, partially supporting, or not supporting of the use depending upon the percentage of samples that exceed the screening criteria levels. TCEQ conducts use attainability analyses to determine whether the designated uses listed above are appropriately set and whether those uses are impaired. The analysis identifies the causes of use impairments and the results typically bring about changes in use assignments as reflected in revisions to the TSWQS.

Water quality impairments are noted on the Texas 2002 Clean Water Act Section 303(d) List (draft October 1, 2002). The list is comprised of segments that do not meet, or are not expected to meet, applicable water quality standards, and includes the reasons for the impairment or threat. The Texas Department of Health (TDH) is responsible for issuance of fish consumption advisories, aquatic life closures, and commercial bans.

The designated water uses for this river segment are aquatic life, contact recreation, general use, and fish consumption. Fish consumption use and contact recreation use were not supported due to the presence of bacteria, PCBs in fish tissue and chlordane in fish tissue.

Fish and Wildlife

Fish and wildlife species vary considerably within the study area. The creek channel, wetlands, open water areas, and forested areas support a variety of wildlife species with cover, food and nesting areas. Bird species reported to have been observed within the study area include Meadowlark (*Sturnella neglecta*), Mourning Dove (*Zenaida macroura*), Common Crow (*Corvus brachyrhynchos*), Red-tailed Hawk (*Buteo jamaicensis*), American Kestrel (*Falco sparverius*), Little Blue Heron (*Egretta caerulea*), Great Blue Heron (*Ardea herodias*), Cattle Egret (*Bubulcus ibis*), Mallard (*Anas discors*), Green-wing Teal (*A. crecca*), Lesser Scaup (*Aythya affinis*), Great-tailed Grackle (*Quiscalus mexicanus*), Scissor-tailed Flycatcher (*Tyrannus forficatus*), Western Kingbird (*T. verticalis*), Logger-head Shrike (*Lanius ludovicianus*), and Red Winged Blackbird (*Agelaius phoeniceus*). Amphibians, reptiles, and mammals common to the area include Bullfrog (*Rana catesbeiana*), Southern Leopard Frog (*Rana sphenoccephala*), numerous toads, snakes, turtles, Cottontail Rabbit (*Sylvilagus floridanus*), Swamp Rabbit

(*S. aquaticus*), White-tailed Deer (*Odocoileus virginianus*), Hispid Cotton Rat (*Sigmodon hispidus*), White-footed Mouse (*Peromyscus leucopus*), Opossum (*Didelphis virginiana*), Raccoon (*Procyon lotor*), Bob cat (*Lynx rufus*), Beaver (*Castor canadensis*), Striped Skunk (*Mephitis mephitis*), Gray Fox (*Urocyon cinereoargenteus*), Red Fox (*Vulpes fulva*), Coyote (*Canis latrans*), Fox Squirrel (*Sciurus niger*), Nutria (*Myocastor coypus*), and other numerous small rodents and insectivores.

Fish species common within the Trinity River and associated tributaries in the area include rough fish such as Carp (*Cyprinus carpio*), Gizzard Shad (*Dorosoma cepedianum*), and Long-nose Gar (*Lepisosteus osseus*), and smaller pollution tolerant species such as the Mosquito Fish (*Gambusia affinis*), Sunfish (*Lepomis spp.*) Red Shiner (*Notropis lutrensis*), and Bullhead Minnow (*Pimephales vigilax*).

Vegetation

Herbaceous species dominating the floodplain include Johnsongrass (*Sorghum halepense*), Giant Ragweed (*Ambrosia trifida*), and Annual Sunflower (*Helianthus annuus*). Other herbaceous species found were Goldenrod (*Solidago* sp.), Broomweed (*Gutierrezia* sp.), Bermuda Grass (*Cynodon dactylon*), Storks Bill (*Erodium* sp.), Texas Wintergrass (*Stipa leucotricha*), Button-bush (*Cephalanthus occidentalis*), Plaintain (*Plantago* sp.), Big bluestem (*Andropogon gerardii*), Little bluestem (*Schizachyrium scoparium*), Vine-mesquite (*Panicum obtusum*), Switchgrass (*Panicum virgatum*), Indiangrass (*Sorghastrum nutans*), Eastern gamagrass (*Tripsacum dactyloides*), Plains lovegrass (*Eragrostis intermedia*), Canada wildrye (*Elymus Canadensis*), Virginia wildrye (*Elymus virginicus*), Cane bluestem (*Bothriochloa barbinodis*) and bristlegrass (*Setaria* sp.). Sedges (*Carex* sps. and *Cyperus* sps.) were common in the floodplain.

Trees identified in the following section are either found in the study area or commonly found in the Trinity River channel and its tributaries. Trees are also scattered throughout the floodplain and in wetland areas. Herbaceous species, including native grasses and forbs occur in the remainder of the floodplain.

The dominant trees species are Black Willow (*Salix nigra*), Cedar Elm (*Ulmus crassifolia*), Sugarberry or Hackberry (*Celtis laevigata*), Green Ash (*Fraxinus pennsylvanica*), and Cottonwood (*Populus deltoides*). Other tree species present are Osage Orange (*Maclura pomifera*) and Mesquite (*Prosopis glandulosa*). Trees found in the Trinity River watershed include the above species in addition to red Mulberry (*Morus rubra*), Box-elder (*Acer negundo*), Pecan (*Carya illinoensis*), and American Elm (*Ulmus americana*).

Threatened and Endangered Species

Based on information available from the U. S. Fish and Wildlife Service, the threatened or endangered species or species proposed to be listed that occur in Dallas County are the Bald Eagle (*Haliaeetus leucocephalus*), black-capped vireo (*Vireo atricapilla*), golden-cheeked warbler (*Dendroica chrysoparia*), piping plover (*Charadrius melodus*), and interior least tern (*Sterna antillarum*). The Whooping Crane (*Grus Americana*) is also

reported to migrate through the project area. No critical habitat was identified in the project area that may be utilized by these species.

Cultural Resources

Cultural resources are nonrenewable resources whose value may be easily diminished by physical disturbance. These resources are those places and items considered important to a culture or community for reasons of history, tradition, religion or science. Cultural resources can include prehistoric and historic archaeological sites, historic buildings and structures, traditional cultural places, historic landscapes and historic objects. The importance of cultural resources can be assessed by placing them within an appropriate historic context.

Air Quality

The federal air quality program in Texas is administered by the TCEQ. The State Implementation Plan (SIP) includes Tarrant County as a non-attainment area for ozone (i.e., air quality in Tarrant County has failed to meet national ambient standards for ozone). The Environmental Protection Agency (EPA) uses six "criteria pollutants" as indicators of air quality, and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). Areas of the country where air pollution levels persistently exceed the NAAQS may be designated as non-attainment areas. Conversely, areas of the country that do not persistently exceed the NAAQS are designated as attainment areas. The recommended project area would be located entirely within the Consolidated Metropolitan Statistical Area (CMSA). CMSA is currently designated as in non-attainment for 8-hour ozone (Figure 2).

Environmental Consequences

Project Setting and Land Use

Impacts to land use as a result of the proposed project would not change. Continued use of Nokomis bridge would not be compromised.

Climate

No impacts to the climate are anticipated as a result of the proposed alternative.

Geology and Soils

Total area impacted from the proposed project would be 1.10 acres. 1181 cubic yards would be excavated and 3570 cubic yards of fill (prepackaged concrete riprap) would be added for a net gain of 2389 cubic yards.

Water Quality

A total of .47 acres of Waters of the U.S. would be impacted from the proposed alternative. Impacts to water quality would be primarily in the form of increased turbidity from construction activities to the bank and stream bottom. Impacts would be temporary in nature as stabilization occurs to the site.

During construction, silt fences and berms would filter the stormwater runoff from all disturbed areas. These temporary erosion control measures would remain in place until the disturbed areas are permanently stabilized. All construction activity and related traffic would be confined to easements.

Fish and Wildlife

Aquatic organisms presently utilizing shoreline or near shore habitats adjacent to the project site would be displaced temporarily during any construction activity. Aquatic habitat provided by shading structures, root wads, and undercut banks, would be eliminated by any bank preparation activities. Until re-vegetation occurs, fish and other aquatic biota would be temporarily impacted from the turbidity generated from suspended silt and other material in runoff from construction activities. Over time vegetation on affected areas would stabilize soils and minimize surface run-off.

Slow moving wildlife species living in the stream bank areas would be lost during excavation of borrow material and stream bank repair. Other, mobile animals associated with the project area would be temporarily displaced to adjoining fields, woodland, and pasture areas during construction. Noise associated with construction activities would temporarily disturb terrestrial wildlife species in adjacent areas.

Vegetation

A total of 1.10 acres of limited riparian woodland habitat would be impacted from the proposed project. Limited streambank vegetation would be cleared for bank preparation activities. Access areas for equipment placement would impact ground cover in the form of grass and forbs at the tops of the stream bank. These areas would be hydroseeded at the completion of construction. Areas to hydroseed would cover approximately 12620 square feet.

Threatened and Endangered Species

The proposed project will not adversely affect any species Federally or state listed or proposed for listing as endangered or threatened or critical habitat.

Cultural Resources

The Corps is considering the entire 500 x 400 foot study area as the Area of Potential Effect for the purposes of cultural resources investigations. Research conducted of the Texas Archaeological Sites Atlas online indicated that the eastern side of Nokomis Road at Tenmile Creek was surveyed for cultural resources in 1986 by the National Parks Service. In addition, the EPA and the TWRD conducted a linear survey along Tenmile Creek in 1982. This survey began approximately 1/3 of a mile upstream of the Nokomis bridge and extends down stream for several miles, covering the stream bank within the proposed project limits. Neither survey recorded any sites within the current project vicinity. The site files indicate that one site, 41DL141, is located approximately 1000 feet northeast of the Nokomis Road bridge in a modern roadside cemetery. The site file record describes this site as a lithic scatter, possibly a secondary deposit, and it has been determined not eligible for the National Register of Historic Places. Also located within a one-mile radius of the project area are three sites identified in 1987 during a survey for the Lancaster Municipal Golf Course, sites 41DL273, 41DL277, and 41DL278. None of these sites was determined eligible for listing on the National Register and the golf course has since been built over them.

Given the previous surveys conducted within the project footprint did not locate any cultural resources in the APE or in its vicinity, the limited area of impact expected to be associated with the current project, and the extremely eroded nature of the stream bank within the project area, the Fort Worth District, in accordance with 36 CFR Part 800.4(d)(1), has determined that No Historic Properties will be affected by the stream bank stabilization. The Corps has received concurrence from SHPO.

Air Quality

Air quality, noise and other disturbances associated with construction would be temporary in nature and would only last during construction activities.

Cumulative Impacts

Past activities that have occurred in the project area would include the construction of Nokomis Road and bridge over Tenmile Creek. A maintained park area is present as well on the Northeast side of the project area. The project area is relatively undeveloped with a few housing additions in the general area upstream and downstream from Nokomis bridge.

Present activities occurring in the project area would be the continued development both upstream and downstream of Nokomis bridge as the population of the City of Lancaster to the North continues to grow and push south. Surface runoff from rainstorm events have increased in velocity and magnitude in Tenmile Creek as more impermeable ground cover takes the place of soils and vegetation from the increased development in the upper regions of Tenmile Creek. This trend in increased velocities from rainstorm events has begun to erode away bank sides adjacent to Nokomis Road and the supporting structures for Tenmile creek bridge.

Future activities in the project area would be the presence of more development in the Tenmile Creek watershed as more housing developments are built. Vehicular traffic on Nokomis Road would ultimately increase as use of the road and bridge have coincided with the increased growth. Continued erosion in the project area would ultimately threaten the integrity of the bridge and Nokomis road above the bridge resulting in bridge and road failure.

Regulatory Requirements

Nationwide permit 13 (NWP 13) authorizes bank stabilization activities necessary for erosion prevention. The proposed activity appears to be in compliance with the terms and conditions of NWP 13. The State of Texas has certified that both the LOP procedure and the nationwide permit 13 would not result in violation of established water quality standards provided appropriate provisions are followed. Therefore, should this project be authorized by either of these two options, Section 401 compliance would be certified and it would not be necessary to conduct a Section 404 (b)(1) analysis.

Executive Order 11988-Floodplain Mangement

The spirit and intent of Executive Order 11988 have been considered in preparation of this EA. Since this is an emergency stream bank protection project, there would be no other practical alternatives to conducting proposed activities within the flood plain.

Agency Coordination and Public Involvement

A draft of this Environmental Assessment will be sent to the following resource agencies for review and comment in accordance with coordination requirements as set forth by NEPA: Texas Parks & Wildlife Department; U.S. Fish and Wildlife Department; U.S. Environmental Protection Agency; Texas Historic Commission, and the Texas Commission on Environmental Quality. The EA will undergo a 30-day public comment period. Any comments received during the comment period will be included in Appendix B.

Conclusions and Recommendations

The findings of this EA indicate that there is a need for stream bank protection near Nokomis Road and bridge at Tenmile Creek. If corrective action is not taken, there is a threat of imminent failure of the stream bank, bridge and road. The prepackaged concrete riprap bag slope protection alternative would provide streambank protection against further erosion and protect the affected public bridge and road. This EA has evaluated the potential environmental and cultural impacts associated with the proposed emergency riverbank stabilization project along Nokomis Road and bridge at Tenmile Creek. It is the finding of this assessment that implementation of the recommended plan, the

construction of the prepackaged concrete riprap bag slope, would not cause significant environmental impacts.

Appendix A: Figures and Photographs

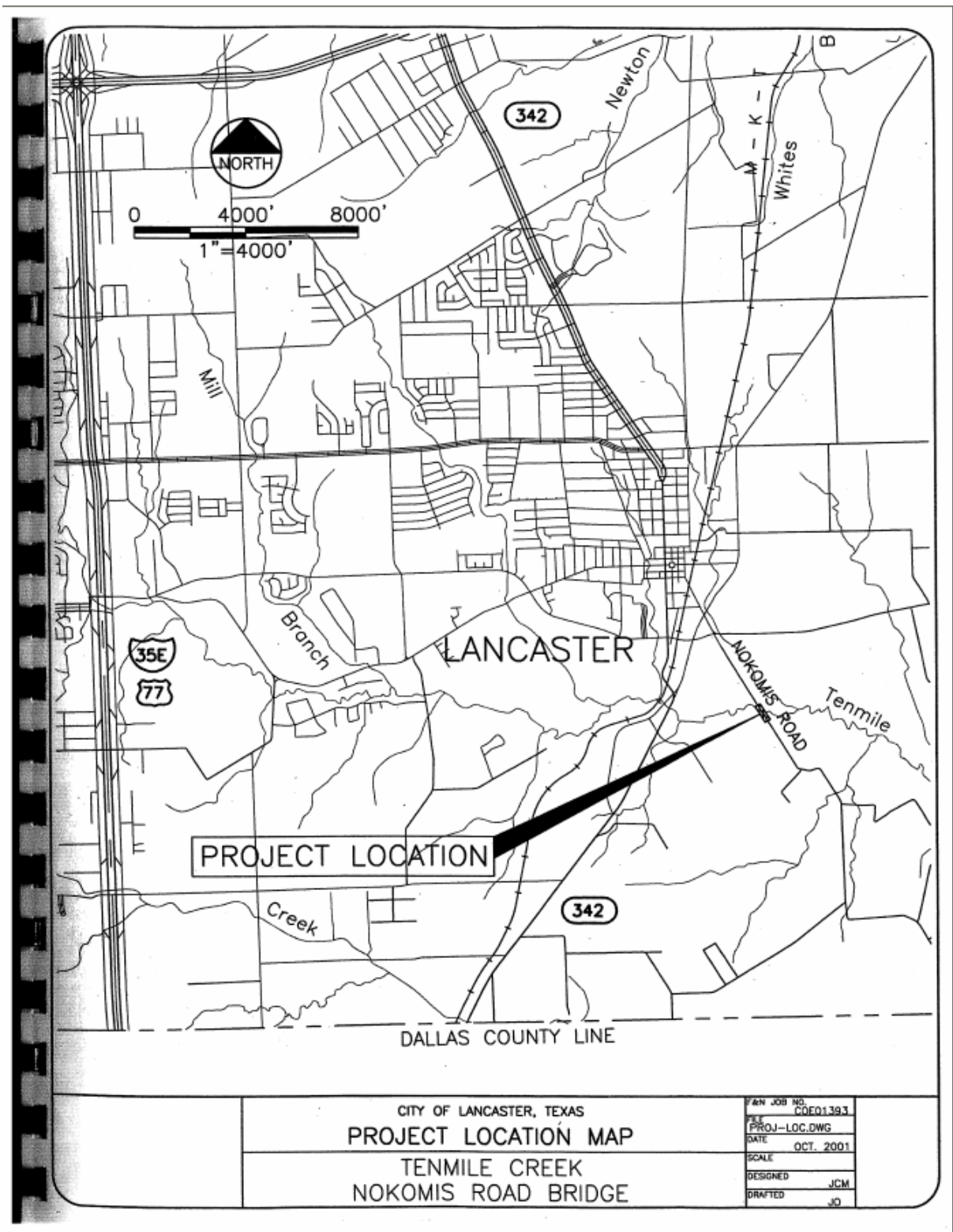


Figure 2: Project Location Map

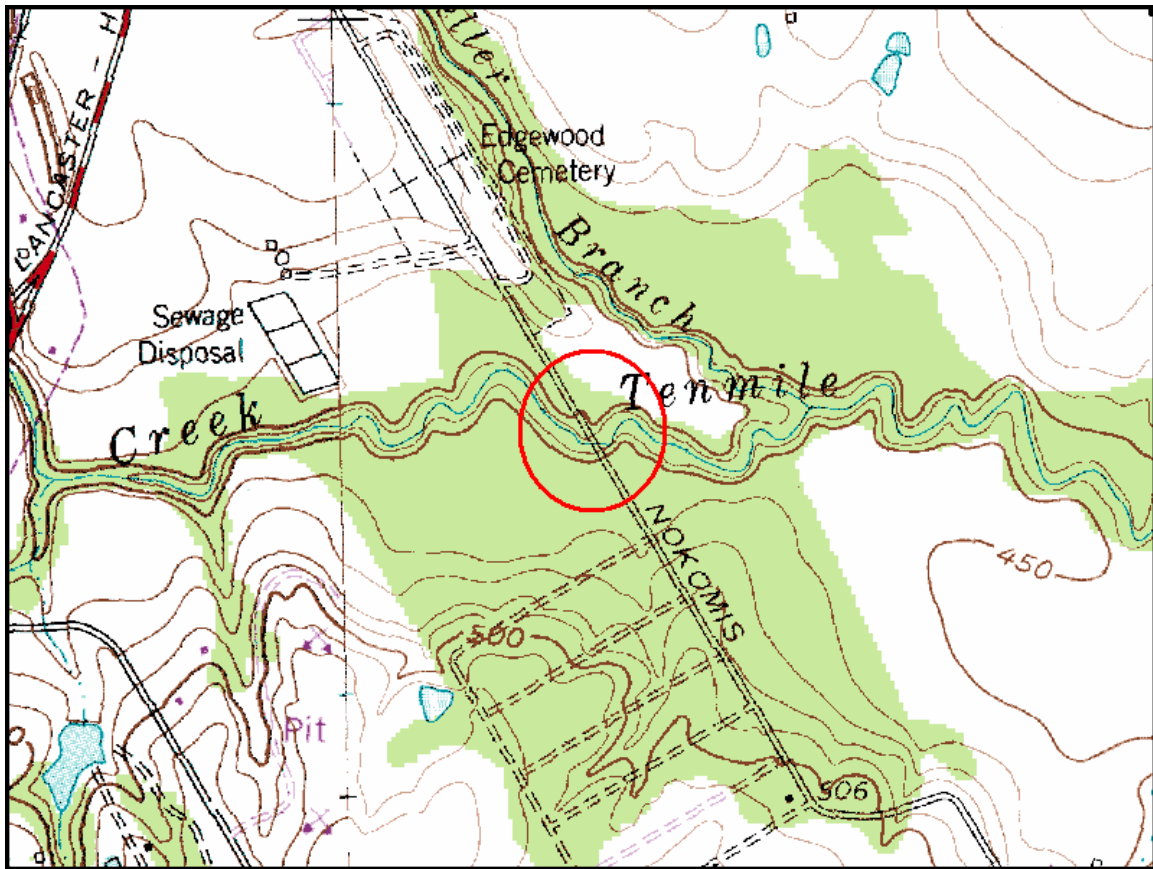


Figure 3: Site Geography.

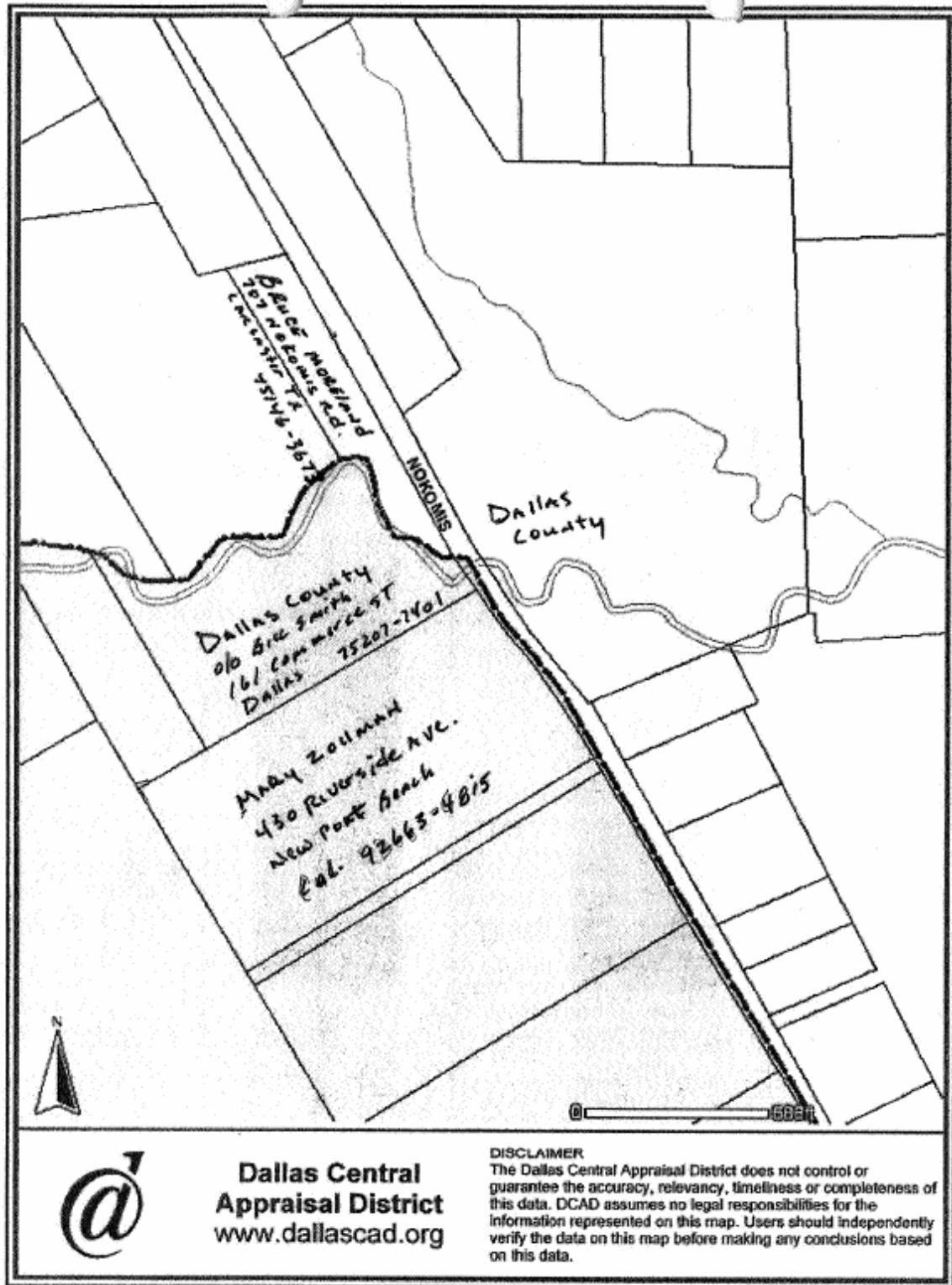


Figure 4: Land Ownership



Photo 1: View of Nokomis Road bridge and Tenmile Creek from upstream.



Photo 2: View of bend in Tenmile Creek immediately upstream of bridge.



Photo 3: View of streambank erosion in vicinity of the bridge.



Photo 4: View of the foundation damage under the bridge.

Appendix B: Agency Coordination and Public Involvement



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300
FORT WORTH, TEXAS 76102-0300

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Planning, Environmental and
Regulatory Division

TEXAS HISTORICAL COMMISSION

Subject: Section 14 Emergency Stream Bank Stabilization Project, Nokomis Road at
Tenmile Creek, Lancaster, Dallas County, Texas

Mr. F. Lawrence Oaks
State Historic Preservation Officer
Texas Historical Commission
1511 Colorado St.
Austin, Texas 78701

Dear Mr. Oakes,

The U.S. Army Corps of Engineers, Fort Worth District, on behalf of the City of Lancaster, Texas, is conducting emergency stream bank stabilization at the Nokomis Road crossing of Tenmile Creek approximately 1 mile southeast of the town of Lancaster, Dallas County, Texas (Figure 1).

Stabilization is necessary where the creek has severely eroded under the Nokomis Road bridge and in the tight S- curves of the creek at that location (see Photos). Stabilization will be achieved through the use of gabion lining along both banks. The project boundary is limited to within 250 feet upstream and 250 feet downstream of the Nokomis Road bridge and approximately 400 feet in width across the existing channel. Construction impacts are not expected to extend this entire distance.

The Corps is considering the entire 500 x 400- foot study area as the Area of Potential Effect for the purposes of cultural resources investigations. Research conducted of the Texas Archaeological Sites Atlas online indicated that the eastern side of Nokomis Road at Tenmile Creek was surveyed for cultural resources in 1986 by the National Parks Service (Figure 2). In addition, the EPA and the TWRD conducted a linear survey along Tenmile Creek in 1982 (see Figure 2). This survey began approximately 1/3 of a mile upstream of the Nokomis bridge and extends down stream for several miles, covering the stream bank within the proposed project limits. Neither survey recorded any sites within the current project vicinity. The site files indicate that one site, 41DL141, is located approximately 1000 feet northeast of the Nokomis Road bridge in a modern roadside cemetery. The site file record describes this site as a lithic scatter, possibly a secondary deposit, and it has been determined not eligible for the National Register of Historic Places. Also located within a one-mile radius of the project area are three sites identified


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in 1987 during a survey for the Lancaster Municipal Golf Course, sites 41DL273, 41DL277, and 41DL278. None of these sites was determined eligible for listing on the National Register and the golf course has since been built over them.


Given the previous surveys conducted within the project footprint did not locate any cultural resources in the APE or in its vicinity, the limited area of impact expected to be associated with the current project, and the extremely eroded nature of the stream bank within the project area, the Fort Worth District, in accordance with 36 CFR Part 800.4(d)(1), has determined that No Historic Properties will be affected by the stream bank stabilization. We ask for your concurrence with this determination.

If you have any questions pertaining to this project, please to not hesitate to contact Ms. Nancy Parrish at (817) 886-1725 or via email at nancy.a.parrish@swf02.usace.army.mil

Sincerely,


William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

NO HISTORIC
PROPERTIES AFFECTED
PROJECT MAY PROCEED
By 
for F. Lawrence Oaks
State Historic Preservation Officer
Date 1/19/07
Track# _____